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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
DO, ANH HONG	

ART UNIT	PAPER NUMBER
2627	

DATE MAILED: 12/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/981,546	WILLIAMS, BARON D.	
	Examiner	Art Unit	
	ANH H. DO	2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 September 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *16 and 17* is/are allowed.

6)☒ Claim(s) *1-5, 7-10, 12-15, and 18-22* is/are rejected.

7)☒ Claim(s) *6 and 11* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 9/16/2005 have been fully considered but they are not persuasive.

In response to the Applicant's argument that the cited prior art does not disclose or suggest "determining a compression size for each of the segments, wherein the compression size varies based on a number of bits needed to represent each segment" and "combining the compressed segments into a data stream", it should be noted that Huang clearly defines the size of a compression segment size (col. 3, lines 1-7), and the compression size varies depending on the number of bytes (col. 4, lines 1-5; and col. 2, lines 59-62, teaching the compression varies based on the number of bytes such as 128, 256, 512, or 1024), and Huang also shows in Fig.2, MUX 55 for combining all segments compressed by encoders 51-53 and stored in buffers 54, into a data stream to be stored in compress buffer 57).

Allowable Subject Matter

2. The indicated allowability of claims 19, 20, and 22 is withdrawn in view of the 35 U.S.C. 101.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 18-22 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claims 18-22 are drawn to a functional descriptive material NOT claimed as residing on a computer readable medium. MPEP 2106.IV.B.1(a) (Functional Descriptive Material) states:

> "Data structures not claimed as embodied in a computer readable medium are descriptive material per se and are not statutory because they are not capable of causing functional change in the computer."
> "Such claimed data structures do not define any structural or functional interrelationships between the data structure and other claimed aspects of the invention which permit the data structure's functionality to be realized."

Claims 18-22, while defining a computer program, do not define a "computer readable medium" and are thus non-statutory for that reason. A computer program can range from paper on which the program is written, to a program simply contemplated and memorized by a person. The examiner suggests amending the claims to embody the program on "computer readable medium" in order to make the claims statutory.

> "In contrast, a claimed computer readable medium encoded with the data structure defines structural and functional interrelationships between the data structure and the computer software and hardware components which permit the data structure's functionality to be realized, and is thus statutory." MPEP 2106.IV.B.1(a).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 1-5, 7-10, 12-15, 18, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berger et al. (U.S. Patent No. 5,091,975) in view of Huang et al. (U.S. Patent No. 5,748,904).

Regarding claim 1, Berger discloses:

- dividing a signature (corresponding to the claimed sequence of points) into segments of successive points (col. 3, lines 21-23);

- encoding (corresponding to the claimed compressing) each of the segments (col. 3, lines 23-26).

Berger does not disclose expressly determining a compression size for each of the segments, wherein the compression size varies based on information in each segment, and combining the compressed segments into a data stream.

Huang discloses determining a compression size for each of the segments, wherein the compression size varies based on information in each segment (col. 3, lines 1-7), and the compression size varies depending on the number of bytes (col. 4, lines 1-5; and col. 2, lines 59-62, teaching the compression varies based on the number of bytes such as 128, 256, 512, or 1024), and Huang also shows in Fig.2, MUX 55 for combining all segments compressed by encoders 51-53 and stored in buffers 54, into a data stream to be stored in compress buffer 57).

Berger & Huang are combinable because they are from image compression.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to determine compression size for each of the segments, wherein the compression size varies based on information in each segment, and compressing each

of the segments into the compression size for each segment as taught by Huang in Berger.

The suggestion/motivation for doing so would have been to effectively reduce redundant information in the graphic data and more bandwidth is available for the host CPU to access the data in the DRAM of the frame buffer (Huang, col. 2, lines 9-17).

Therefore, it would have been obvious to combine Berger with Huang to obtain the invention as specified in claim 1.

Regarding claim 2, Berger teaches dividing a signature (i.e., a sequence of points) into segments of S successive points (Fig. 2 shows signature 32 is divided into segments of successive points, for instance, segment O-c includes successive points a, b, c).

Regarding claim 3, Berger teaches determining the value of S points (col. 3, lines 67-68, teaches calculating the value of the points).

Regarding claim 4, Berger teaches generating multiple compressions of the sequence, each of the multiple compressions at different value of S (col. 4, lines 14-17, teaches one segment is encoded as the value of F; and col. 4, lines 45-48, teaches each encoded segment having different values).

Regarding claim 5, Berger teaches generating a compression of the sequence of for each value of S from a minimum to a maximum (col. 4, lines 19-24, teaches the encoded values of points from MIN 0-7 to MAX 152-255).

Regarding claim 7, Berger teaches:

- generating multiple compressions of the sequence, each of the multiple

compressions at different value of S (col. 4, lines 14-17, teaches one segment is encoded as the value of F; and col. 4, lines 45-48, teaches each encoded segment having different values);

- determining the value of S to be the value of S generating the smallest of multiple compressions (col. 4, line 20, teaches the smallest of multiple compressions).

Regarding claims 8-10, Berger teaches compressing each of the segments of successive, i-bit points into segments of j-bit points, where j=i (=8 bits) and j may vary from segment to segment, and j is minimum number of bits necessary to represent the data in the segment (col. 3, lines 23-24; col. 5, lines 12-33).

Regarding claim 12, Berger teaches the sequence of points is an electronic signature (col. 2, lines 43-46, teaches capturing an electronic signature).

Regarding claim 13, Berger teaches compressing each of the segments inherently without losing any of the data in any of the segments (col. 3, lines 23-24).

Regarding claim 14, Berger teaches compressing each of the segments inherently losing data as directed by an invoking user (col. 5, lines 18-28, teaches reducing bits from 8 to 4).

Regarding claim 15, Berger teaches converting DrawToData to relative-movement data (col. 2, lines 40-46, teaches converting DrawToData from paper copy 12 to signature data in tablet 24).

Regarding claim 18, Berger discloses:

- a program executed by a computer implicit including a data store (col. 3, lines 21-26);

- dividing a signature (corresponding to the claimed sequence of points) into segments of successive points (col. 3, lines 21-23);

- encoding (corresponding to the claimed compressing) each of the segments (col. 3, lines 23-26).

Berger does not disclose expressly determining a compression size for each of the segments, wherein the compression size varies based on information in each segment, and combining the compressed segments into a data stream.

Huang discloses determining a compression size for each of the segments, wherein the compression size varies based on information in each segment (col. 3, lines 1-7), and the compression size varies depending on the number of bytes (col. 4, lines 1-5; and col. 2, lines 59-62, teaching the compression varies based on the number of bytes such as 128, 256, 512, or 1024), and Huang also shows in Fig.2, MUX 55 for combining all segments compressed by encoders 51-53 and stored in buffers 54, into a data stream to be stored in compress buffer 57).

Berger & Huang are combinable because they are from image compression.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to determine compression size for each of the segments, wherein the compression size varies based on information in each segment, and compressing each of the segments into the compression size for each segment as taught by Huang in Berger.

The suggestion/motivation for doing so would have been to effectively reduce redundant information in the graphic data and more bandwidth is available for the host CPU to access the data in the DRAM of the frame buffer (Huang, col. 2, lines 9-17).

Therefore, it would have been obvious to combine Berger with Huang to obtain the invention as specified in claim 18.

Regarding claim 21, Berger teaches:

- dividing a signature (corresponding to the claimed sequence of points) into segments of successive points (col. 3, lines 21-23);

- encoding (corresponding to the claimed compressing) each of the segments (col. 3, lines 23-26);

- a data store (col. 2, line 54, teaches the data store for storing the record signal);

- a CPU for executing the computer program in the data store (col. 2, lines 48-49, teaches a computer implicitly including a CPU for executing a program);

- a link, communicatively coupling to the data store and the CPU (Fig. 1 shows cables 16 and 26 serving as links communicatively coupling to the data store and the CPU implicitly included in computer 18).

Berger does not disclose expressly determining a compression size for each of the segments, wherein the compression size varies based on information in each segment, and combining the compressed segments into a data stream.

Huang discloses determining a compression size for each of the segments, wherein the compression size varies based on information in each segment (col. 3, lines 1-7), and the compression size varies depending on the number of bytes (col. 4, lines 1-

5; and col. 2, lines 59-62, teaching the compression varies based on the number of bytes such as 128, 256, 512, or 1024), and Huang also shows in Fig.2, MUX 55 for combining all segments compressed by encoders 51-53 and stored in buffers 54, into a data stream to be stored in compress buffer 57).

Berger & Huang are combinable because they are from image compression.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to determine compression size for each of the segments, wherein the compression size varies based on information in each segment; and compressing each of the segments into the compression size for each segment as taught by Huang in Berger.

The suggestion/motivation for doing so would have been to effectively reduce redundant information in the graphic data and more bandwidth is available for the host CPU to access the data in the DRAM of the frame buffer (Huang, col. 2, lines 9-17).

Therefore, it would have been obvious to combine Berger with Huang to obtain the invention as specified in claim 21.

Allowable Subject Matter

1. Claims 16 and 17 are allowed.

2. Claims 6 and 11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

3. The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 6, the prior art, either taken singly or in combination, does not teach:

- generating a compression of the sequence for each value of S from a minimum of 2 to a maximum equal to the number of points in the sequence.

Regarding claim 11, the prior art, either taken singly or in combination, does not teach:

- setting j for the segment to the ceiling of the base-2 log of that largest coordinate; and truncating from points of the segment most significant bits exceeding j bits.

Regarding claim 16, the prior art, either taken singly or in combination, does not teach:

- setting j for the segment to the ceiling of the base-2 log of that largest coordinate; and truncating from points of the segment most significant bits exceeding j bits.

Regarding claim 17, since it depends upon claim 16, it is also allowable for the same reason.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANH H. DO whose telephone number is 571-272-7433. The examiner can normally be reached on 5/4-9.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, DAVID K. MOORE can be reached on 571-272-7437. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

December 23, 2005

ANH HONG DO
PRIMARY EXAMINER